

THE AIRPOWER TENET OF CENTRALIZED CONTROL
FROM ORGANIZATIONAL AND BATTLE MANAGEMENT PERSPECTIVES

BY

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Abstract

This study examines the airpower tenet of centralized control, which US Air Force doctrine has traditionally upheld as the foundation for organizing, planning, and executing joint air operations. The tenet is examined from both an organizational and a battle management aspect. The organizational aspect refers to the command and procedural arrangements that permit a Joint Forces Air Component Commander (JFACC) to achieve unity of air effort. It is the JFACC's span of control. The battle management aspect refers to the JFACC's actions in the process of planning and executing theater air operations. It is the JFACC's level of control. Most doctrinal publications that mention JFACC operations focus on the organizational aspect, and not the battle management aspect of the tenet of centralized control.

This study examines both aspects of the airpower tenet. It first covers the evolution of the air component commander's span of control, which prior to the Goldwater-Nichols Act of 1986 rarely permitted unity of air effort. Next it examines the JFACC levels of control exercised in Operations DESERT STORM and DELIBERATE FORCE and looks at six factors that either instigated or facilitated these different levels of control. The six factors examined are (1) the command and procedural arrangements established for the JFACC, (2) the command and control technology available in theater, (3) the status of JFACC doctrine prior to the operations, (4) the scale of air operations, (5) the criticality of certain decisions and tasks in air operations, and (6) the JFACC's leadership style. Finally, this study generates conclusions from the DESERT STORM and DELIBERATE FORCE operations and provides suggestions on how Air Force

doctrine should change to reflect and anticipate the flexibility inherent to the airpower tenet of centralized control.

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Chapter 1

Introduction

Without centralized control commanders cannot exploit the speed and flexibility of aerospace platforms to concentrate forces--whether in attack or defense--from diverse locations on decisive points, establish and enforce theater-wide priorities, execute synergistic campaigns, establish appropriate balances, or assure persistent attacks.

Air Force Manual 1-1
March 1992

The purpose of joint air operations¹ is to employ airpower assets to accomplish or support the Joint Force Commander's (JFC's) theater military objectives. As demonstrated in the above quote, US Air Force doctrine has traditionally upheld the airpower tenet of centralized control as a "fundamental truth" for organizing, planning, and executing joint air operations.² The tenet of centralized control encapsulates two issues related to the function of control: a Joint Forces Air Component Commander's (JFACC's) "span of control" and "level of control." A JFACC's span of control stems from an organizational perspective--the command and procedural arrangements established by the JFC that allow the JFACC to achieve unity of air effort. A JFACC's level of control stems from his actions as a battle manager in the theater airpower employment process. Most doctrinal publications that mention JFACC operations focus on the organizational aspect (span of control) and not the battle management aspect (level of control) of the tenet of centralized control.³

This paper offers a framework for examining the airpower tenet of centralized control by looking at it from both organizational and battle management aspects. Understanding the organizational perspective is critical since it provides the context for understanding the second aspect of the tenet of centralized control, and the main focus of

this research paper: examining primary factors that constrain and facilitate the level of control exercised by the JFACC in the battle management process. The effects of these factors are illustrated by examining the different levels of control exercised by the air component commanders in Operations DESERT STORM and DELIBERATE FORCE.

Chapter 2 develops the framework for examining the tenet of centralized control to assist the reader in understanding the two perspectives from which it is examined: organizational and battle management. The organizational perspective describes the command and procedural arrangements that define the JFACC's "span of control." These arrangements, which help achieve unity of air effort, are but one of the factors that affect the second aspect of the tenet of centralized control: the battle management process. This second aspect highlights the JFACC's "level of control" exercised in the planning and execution of air operations. It addresses the commander's participation in various phases of the theater airpower employment process, from coordinating with the JFC and other component commanders, to directing the actual execution of operations. This level of control connects the function of command to the lowest levels of execution.

Chapter 2 then examines six factors that constrain and facilitate a JFACC's level of control. The factors examined include the command and procedural arrangements established for the JFACC by the Joint Force Commander, the command and control technology available in theater, the status of JFACC doctrine, the scale of air operations, the criticality of certain decisions and tasks in air operations, and the JFACC's own leadership style. These factors are prominent traits of the war or conflict that require a JFACC to participate directly in certain phases of the planning and execution of air operations. Factors that facilitate a JFACC's level of control simply support the JFACC in exercising the level of control he deems appropriate for the war or conflict. The goal is for the air component commander to exercise a level of control that supports or achieves the JFC's military objectives, preferably with the efficient use of personnel and air assets. Too much "hands on" control by the JFACC likely will reduce overall responsiveness and stifle innovation; not enough control may waste valuable air resources and threaten the unity of air effort.⁴

Chapter 3 discusses the organizational aspect by surveying the evolution of the span of control of the air component commander. Starting in the European theater of

World War II and ending with the United Nations (UN) and North Atlantic Treaty Organization (NATO) efforts in Operation DELIBERATE FORCE, this chapter shows that until 1986, the goal of centralizing control was rarely achieved. Then, the passage of the Goldwater-Nichols Department of Defense Reorganization Act in 1986 established a span of control that allowed JFACCs to task a broad range of theater air assets to accomplish their assigned missions.⁵

Chapter 4 focuses on the level of control exercised by JFACCs by examining their actions as battle manager's in theater air operations. This chapter uses interviews of participants, as well as the archives of the Air Force Historical Research Agency, to determine the level of control exercised by air component commanders in Operation DESERT STORM and DELIBERATE FORCE. It then determines which of the six factors constrained, and which of the factors facilitated each commander's decision to exercise a certain level of control. Chapter 4 illustrates how centralized control from a battle management aspect depends on a myriad of factors that comprise the overall nature of a particular war or conflict.

Finally, Chapter 5 examines the evidence gathered in the previous chapters to develop conclusions about the six factors and their role in shaping a JFACC's level of control in joint air operations. These insights demonstrate that the implementation of centralized control in one air operation can look very different when compared to another operation. These insights also highlight areas where Air Force doctrine needs improvement in describing how the tenet of centralized control contributes to the flexibility of airpower.

Notes

¹ The term "joint air operations" substitutes for "air campaign," which is not an approved joint doctrine term.

² Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 2, March 1992, 113.

³ In coalition operations, the JFACC may be called the Coalition Forces Air Component Commander, or CFACC. This paper uses both terms as appropriate, but in relation to the tenet of centralized control, they are essentially the same title.

⁴ AFM 1-1, vol. 2, 114-115.

⁵ JCS Publication 3.56-1, *Command and Control for Joint Air Operations*, 14 November 1994, II-3.

Chapter 2

Organizational and Battle Management Aspects of Centralized Control

This chapter establishes a framework for examining the organizational aspect and the battle management aspects of the tenet of centralized control. The organizational aspect refers to the command and procedural arrangements established to allow JFACCs to achieve unity of effort; mainly it is their “span of control” to task forces. Battle management refers to the level and detail of control exercised by JFACCs in the actual planning and execution of joint air operations; mainly the degree to which they delegate decisions and actions to lower echelons. These two aspects are related, in that command arrangements affect to some extent the level of control exercised by the JFACC.

The Organizational Aspect of the Tenet of Centralized Control

Centralized control exploits the speed and flexibility of air assets to concentrate airpower at decisive points throughout a theater of operations.⁶ For this paper, the tenet of centralized control from an organizational aspect is fulfilled when command and procedural arrangements provide the JFACC the authority and responsibility to (1) task theater air assets made available by the JFC, regardless of service origin, and (2) plan, coordinate, and control these assets to achieve unity of air effort in accomplishing assigned missions. Unity of effort for joint air operations means that all air efforts are directed toward the achievement of common aims.⁷ Without unity of effort, airpower becomes fragmented and uncoordinated, and its desired effects lessened or eliminated.

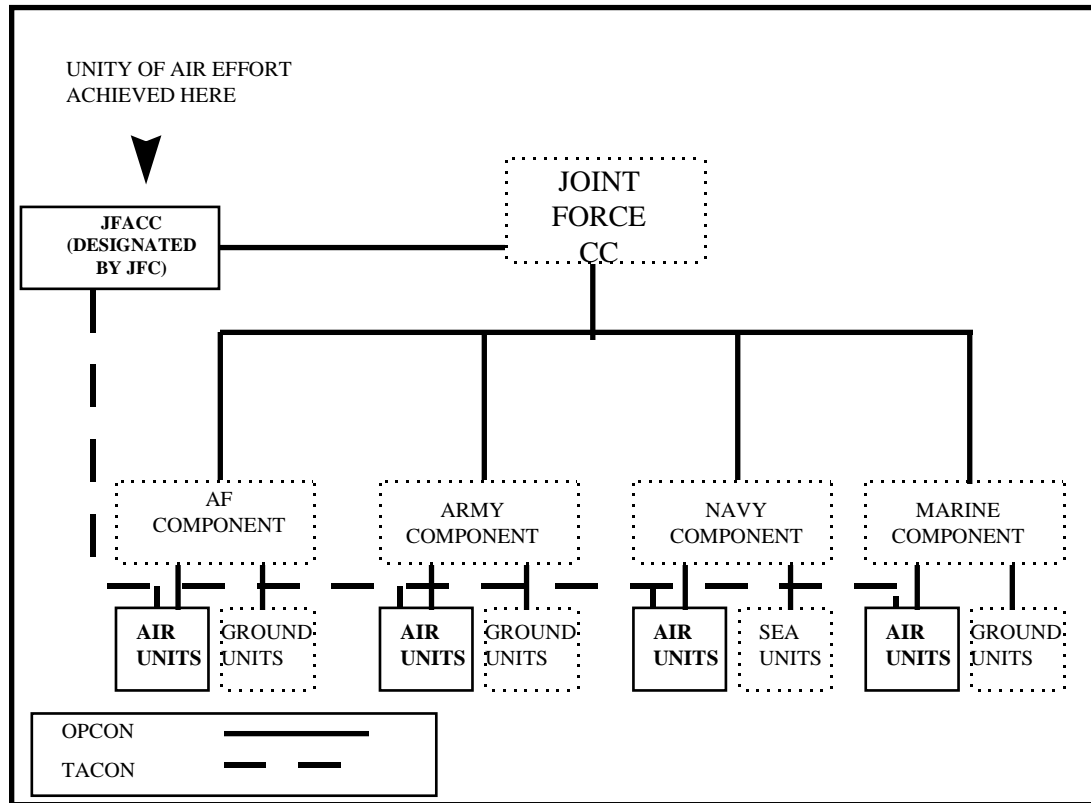
For joint air operations, unity of effort is achieved through command and procedural arrangements. Command arrangements establish unity of command by

establishing a clear chain of command. Procedural arrangements are authoritative rules that provide a certain degree of flexibility for organizing and employing air assets.

Joint doctrine defines unity of command as having all forces operate under a single commander.⁸ However unity of command, itself a “guiding principle of war,” is usually achieved only at the theater command level with the establishment of a JFC.⁹ For most joint and coalition air operations, Air Force and Joint doctrine recognizes that absolute unity of command is difficult to achieve below the JFC level since all four services and most coalition nations operate some form of aerial weapon systems.¹⁰ Therefore, to ensure unity of effort Joint doctrine establishes procedural rules that provide a certain degree of authority and flexibility for organizing air assets from the various national services in theater.

Examples of procedural arrangements embedded in Joint doctrine that add flexibility include the command concepts of operational control (OPCON) and tactical control (TACON). OPCON authority provides the JFACC the authority to “organize commands and forces and employ those forces as the commander...considers necessary to accomplish assigned missions.”¹¹ OPCON provides more authority than TACON, which only allows the JFACC the “detailed and usually local direction and control of movements” necessary to accomplish assigned missions.¹² An important point to remember is that the JFACC’s authority is solely dependent on the command and procedural arrangements established by the JFC.¹³

Figure 1 is an example of a command arrangement that promotes unity of air effort through procedural means without the JFACC achieving absolute unity of command. By being authorized either operational control (OPCON) or tactical control (TACON) over theater air assets made available by the JFC, the JFACC can task and direct air operations as necessary to fulfill or support the theater campaign objectives. As shown in the next chapter, such command arrangements that fulfill the tenet of centralized control rarely existed prior to the Goldwater-Nichols Act of 1986.



Source: JCS Pub 3-0, *Doctrine for Joint Operations*, 1 February 1995, II-16.

Figure 1. Chain of Command with OPCON/TACON

The Battle Management Aspect of the Tenet of Centralized Control

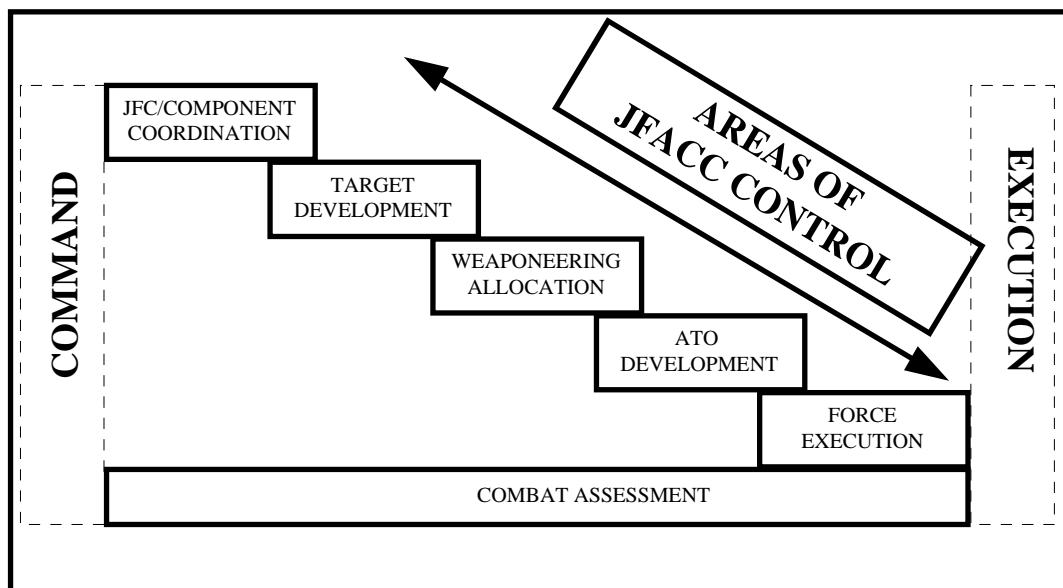
The second half of the analytical framework used here deals with the “battle management” process of planning and employing theater air assets to achieve desired effects.¹⁴ It is the level of control exercised by JFACCs in the planning and employment of joint air operations. When JFACCs are AF officers, they typically exercise control through the Joint Air Operations Center (JAOC), which is the senior element of the Theater Air Ground System (TAGS).¹⁵

Depending on theater command arrangements, JFACCs have the option of exercising “direct” or “indirect” control over air operations. Direct control means that JFACCs directly accomplish certain tasks and make certain decisions that are a part of the planning and employment of air operations. It is where JFACCs take a “hands on” approach to battle management. Indirect control means that JFACCs simply monitor

these tasks and delegate decision-making authority to subordinates in the JAOC or at lower levels of execution.¹⁶

Air Force doctrine suggests that these two control options must be balanced in ways appropriate to the conflict at hand. AFM 1-1 warns that too much direct control delays airpower's responsiveness to changes in war. Additionally, it warns that not enough control by the JFACC, whether direct or indirect, results in a dissipation of airpower's effectiveness.¹⁷

A method to illustrate a JFACC's level of direct and indirect control is with a diagram of the theater airpower employment process shown in Figure 2. The theater airpower employment process consists of a continuous cycle of six phases. These phases are from the notional air tasking cycle presented in Joint Publication 3.56-1, *Command and Control of Joint Air Operations*. The air tasking cycle provides to the JFACC a systematic method for ensuring the efficient and effective employment of joint air capabilities to achieve operational objectives.¹⁸ Placing the phases of the air tasking cycle between the functions of command and execution provides a detailed scale for determining the level of control exercised by a JFACC.



Source: JCS Pub 3-56.1, *Command and Control for Joint Air Operations*, 14 November 1994, IV-4.

Figure 2. Theater Airpower Employment Process

The “command” function displayed in Figure 2 refers to the authority and responsibility vested in the JFACC (by the JFC) for effectively tasking and employing available air resources to accomplish assigned missions. This authority and responsibility is a direct product of the first half of our framework, the command and procedural arrangements established by the JFC to allow the JFACC to achieve unity of air effort. The “execution” function refers to the implementation of the JFACC command decisions by generating the desired effects from assigned missions or air taskings. The desired effects can range from deterrence of specific enemy actions to complete destruction of particular enemy assets. Between the functions of command and execution, the JFACC exercises a level of control that characterizes the battle management process with regard to the tenet of centralized control. This level of control is therefore a consciously determined *degree* to which taskings and missions are planned, monitored, and even executed by the JFACC.

The six phases of the theater airpower employment process are expanded in Figure 3. What follows is a brief explanation of how the JFACC and JAOC personnel participate and interact in each phase. The actual levels of control exercised by the JFACCs in Operation DESERT STORM and DELIBERATE FORCE are examined in Chapter 4.

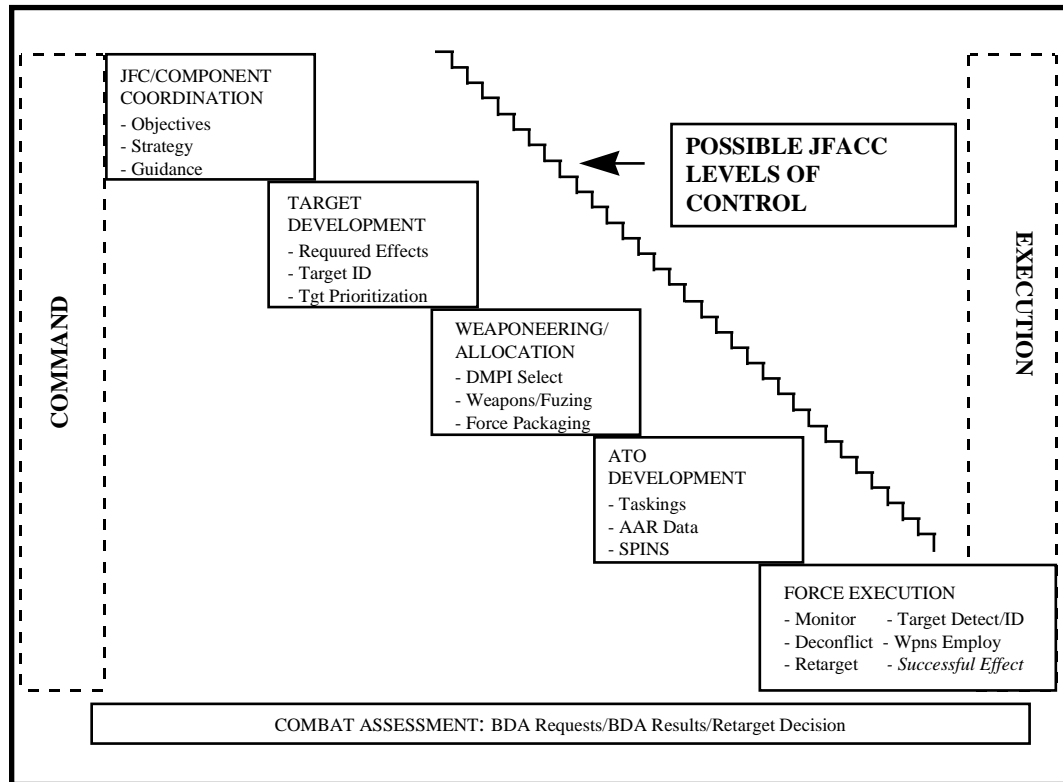


Figure 3. Airpower Employment Process with Phases

JFC/Component Coordination Phase. The JFC provides a vision and intent from which component commanders must plan operations. Specifically for airpower, the JFC approves or revises the JFACC's airpower apportionment recommendation. (The JFACC's apportionment recommendation is offered after consultation and coordination with the other component commanders, and ensures that air operations are consistent with the overall campaign objectives.¹⁹) The JFACC takes the JFC's intent and apportionment decision and formulates his own guidance for the JAOC staff. This guidance typically includes a commander's intent and prioritized objectives and missions.²⁰

Target Development Phase. Air Force, Army, Navy, and Marine components nominate targets to support the JFC's objectives and priorities.²¹ Specifically within the JFACC organization, the required effects are first determined from the JFACC guidance, then the proper targets are identified and prioritized. Depending on JFC preference, the JFACC and the JFC staff may combine the target lists to form a Joint Integrated Prioritized Target List (JIPTL).²²

Weaponneering/Allocation Phase. The finalized JIPTL is the basis for target weaponneering activities.²³ The weaponneering occurs in the Joint Guidance and Apportionment (JGAT) cell, which is part of the Plans Division in a Joint Air Operations Center (JAOC). The JGAT cell arranges the prioritized targets in time and space to determine the proper number and type of air assets required to achieve the desired effect. Usually, this planning activity also includes selection of weapons, fusing, desired mean point of impact (DMPI) determination, plus the allocation of forces into packages. It may also include target descriptions and threat analysis, plus dictate aircrew tactics.²⁴ The efforts of the JGAT result in the master attack plan (MAP).

Joint Air Tasking Order Development Phase. JFC and JFACC guidance, combined with the MAP, form the foundation of the joint Air Tasking Order (ATO).²⁵ The ATO not only includes the air tasking and missions for each unit, but it includes the Airspace Control Order (ACO) and Special Instructions (SPINS), which are usually developed by the JFACC as the designated Airspace Control Authority (ACA) and the Area Air Defense Commander (AADC).²⁶ An important element of the ATO is the Rules of Engagement (ROE) section that regulates “the use of armed force in the context of applicable political and military policy and domestic and international law.”²⁷

Force Execution Phase. During this phase the JFACC and JAOC personnel coordinate, monitor, deconflict, and if authorized by the JFC, redirect tasked air operations. The JFACC employs the Combat Operations division of the JAOC as the clearinghouse for all air activities. The JFACC can delegate the authority to redirect or retask air assets to other ground and airborne command and control commanders, such as the Air Control Element (ACE) on the E-3 AWACS.²⁸ The final actions required in the force execution phase, which hopefully produce the desired effect, include target detection, target identification, and weapons employment. Personnel must perform these actions within the JFACC guidance and instructions contained in the ATO.

Combat Assessment Phase. Combat assessment occurs throughout each step of the theater airpower employment process and evaluates whether the desired effects from air operations are being achieved to meet the JFACC’s objectives. In turn, the JFACC objectives should support the JFC’s campaign objectives.²⁹

Factors That Influence the JFACC's Level of Control

This section examines six factors that influenced the level of control exercised by JFACCs during Operations DESERT STORM and DELIBERATE FORCE. Factors that constrain a JFACC's level of control are prominent traits of the war or conflict that require a JFACC to participate directly in certain phases of the planning and execution of joint air operations. Factors that facilitate a JFACC's level of control simply support the JFACC's ability to control at a level he deems appropriate for the conflict. The influence of each of these six factors varied in degree, not only between the two conflicts, but also within the same conflict.

Command Arrangements. This factor relates to the previous discussion of the JFACC's span of control. Whether the JFACC command arrangements established by the JFC permit unity of air effort will influence how a JFACC controls the joint air operations. Unambiguous command arrangements provide the JFACC the freedom to control and exploit air opportunities as quickly as possible. Ambiguous command arrangements, subject to interpretation or debate, require JFACCs to modify their level of control in the pursuit of unity of effort.

Criticality of Tasks and Decisions. The criticality factor refers to the degree of importance of certain tasks and decisions that occur in the theater airpower employment process. The more critical the task or decision with respect to the operational and strategic conduct of the war, the more likely the JFACC, if the situation permits, will exercise direct control of the task or decision. This does not mean JFACCs are less infallible than their subordinates in the JAOC. It only means that the authority to perform the task or make the decision cannot be delegated due to its importance.³⁰ The criticality of most decisions and tasks are only relative to the conflict at hand. For example, the authority to approve the intercept and destruction of adversary aircraft may be delegated to the JAOC personnel in a large "shooting war," but not delegated in smaller, less violent operations.

Scale of Air Operations. This factor refers to the amount of air assets available for tasking by the JFACC, and the breadth of the desired effects from air operations. If faced to conduct air operations with limited assets, the JFACC may be inclined to

exercise direct control of certain phases of the theater airpower employment process. Conversely, if the breadth of desired effects from airpower are so numerous that a JFACC cannot keep up with all the required information, effectiveness will suffer if his level of control is not adjusted.

C3I Technology Available. This factor reflects the JFACC's ability to exercise control in air operations through communication links established throughout the theater of operation. In modern conflicts, it includes whether the JFACC can plan, monitor, and direct air operations in real time. Note that possessing the capability to exercise direct control of air operations does not necessarily mean that the JFACC will decide to exercise that level of control.

Status of JFACC Doctrine. This factor refers to whether approved JFACC doctrine and training affects the JFACC's level of control in a joint or coalition air operation. The lessons learned from previous operations may affect the JFACC's level of control if the conflict at hand has similar characteristics.

JFACC Leadership Style. This subjective factor is examined to determine how much influence a particular leadership style has on the JFACC's determination to exercise a certain level of control, and how that leadership style in turn affects the subordinates working in the JAOC.

Summary

This chapter discussed a framework for examining the tenet of centralized control by looking at the tenet from organizational and battle management aspects. It also discussed six factors that may influence the JFACC's decision to exercise a certain level of control. The next chapter reviews the command aspect of the tenet of centralized control (span of control) by reviewing the command arrangements established for air component commanders in various conflicts, starting in World War II and ending with the NATO action in Bosnia. Chapter 4 then examines more closely Operations DESERT STORM and DELIBERATE FORCE to determine the levels of control exercised by the air component commanders given these command arrangements.

Notes

⁶ Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 2, March 1992, 113.

Notes

⁷ JCS Pub 3-0, *Doctrine for Joint Operations*, 1 February 1995, III-1.

⁸ Ibid., A-2.

⁹ JCS Pub 1, *Joint Warfare of the Armed Forces of the United States*, 10 January 1995, III-9.

¹⁰ JCS Pub 3-0, A-2; and AFM 1-1, vol. 2, 12.

¹¹ JCS Pub 0-2, *Unified Action Armed Forces (UNAAF)*, 24 February 1995, III-8.

¹² Ibid., III-9.

¹³ Deputy Chief of Staff, Plans and Operations Headquarters, USAF, *JFACC Primer*, Second edition, February 1994, 2.

¹⁴ Air Force Doctrine Document (AFDD) 1, *Basic Air Force Doctrine*, 14 May 1996, 2nd Draft, 19. Although a designated JFACC may be from any service, this paper assumes the JFACC is an Air Force officer. See also JCS Pub 3.56-1, *Command and Control of Joint Air Operations*, 14 November 1994, II-2.

¹⁵ When the operation involves a coalition, the JAOC becomes the Combined Air Operations Center (CAOC). An Air Force-only control center is called the Air Operations Center (AOC), and it is part of the Air Force's Theater Air Control System (TACS). See Air Combat Command Instruction (ACCI) 13-AOC, vol. 3, *Operational Procedures—Air Operations Center*, 1 June 1995, 16.

¹⁶ Note that delegating authority to accomplish tasks and make decisions does not mean the JFACC relinquishes *responsibility* for the effects of those tasks and decisions.

¹⁷ AFM 1-1, vol. 2, 114.

¹⁸ JCS Pub 3-56.1, IV-4.

¹⁹ Ibid., IV-6 - IV-7.

²⁰ Author's observations while at Ninth Air Force exercise, *Blue Flag 97-1*, Hurlburt AFB, FL, 24 - 27 February 1997.

²¹ JCS Pub 3.56-1, IV-7.

²² *Blue Flag 97-1*.

²³ JCS Pub 3.56-1, IV-8.

²⁴ *Blue Flag 97-1*.

²⁵ JCS Pub 3.56-1, IV-8.

²⁶ Ibid., IV-9. The Airspace Control Authority is the commander designated to assume overall responsibility for the operation of airspace control systems in theater, such as air traffic control. The Area Air Defense Commander is the commander designated to assume overall responsibility for air defense of friendly forces in theater. See JCS Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 23 March 1994.

²⁷ 12 Air Force Air Force Forces Air Operations Center Standard Operating Procedures (12 AF AFFOR AOC SOPs), 30 August 1996, 219.

²⁸ JCS Pub 3.56-1, IV-11.

²⁹ Ibid.

³⁰ Stephen H. Lawrence, "Centralization and Decentralization: The Communications Connection" (Master's thesis, Research Associate Program on Information Resources Policy, Harvard University, Boston Massachusetts, June 1982), 14. AU Library Document MU-43583-L423c

Chapter 3

The Evolution of the Air Component Commander's Span of Control

Control of available air power must be centralized and command must be exercised through the air force commander.

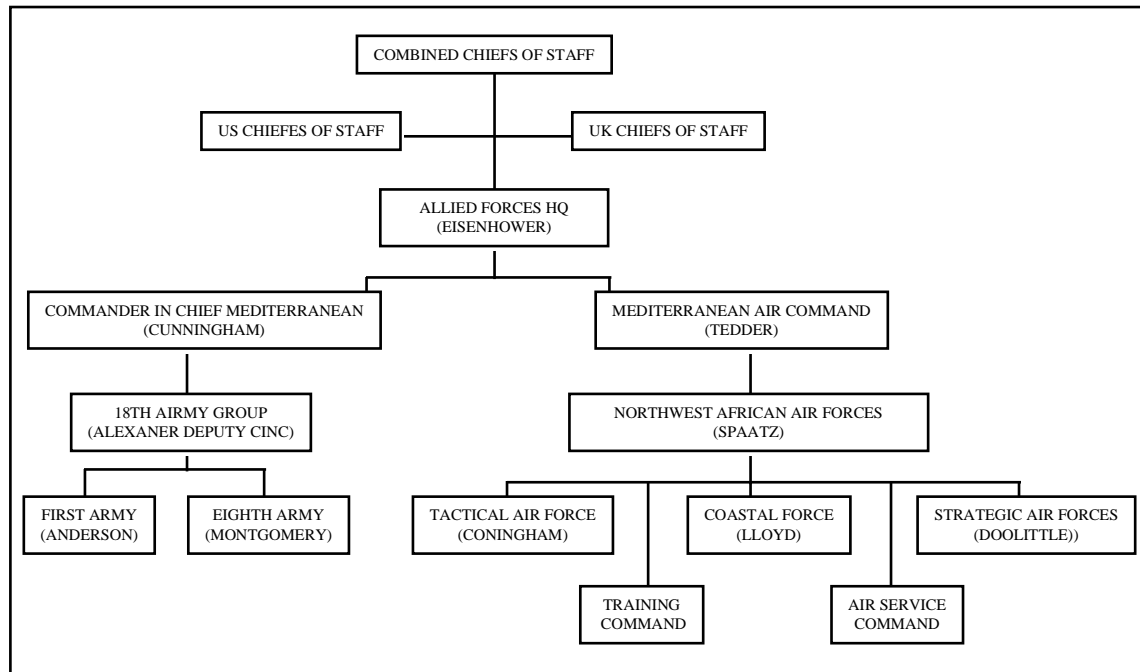
War Department Field Manual 100-20
21 July 1943

Organizationally, air component commanders (known today as JFACCs) achieve unity of effort when they can centrally task and direct theater air assets from different services or nations. When the Goldwater-Nichols Act of 1986 introduced the JFACC concept, it became easier for theater commanders to establish centralized control of air assets, mainly by establishing procedural rules such as operational and tactical control authority. This chapter covers the evolution of air command relationships that led to that situation.

The European Theater in World War II

The idea to centralize the control of theater air assets originated before World War II in US Army air doctrine, but was not practiced with any thoroughness until the North African campaign. When the Allies invaded Algeria and Morocco on 8 November 1942, no single air commander existed to coordinate and control the AAF and Royal Air Force (RAF) assets in theater. For the AAF specifically, some units were placed under US Army ground commanders who parceled out air assets to provide protective air umbrellas over their troops.³¹ Split geographically and lacking coordination and unity of effort, the Allied air forces were unable to achieve air superiority over the Luftwaffe, or to make a decisive contribution to the disjointed campaign.³² General Dwight D.

Eisenhower, the theater commander, soon realized he needed a single air commander.³³ Accordingly, he reorganized his air forces into the Mediterranean Air Command, shown in Figure 4.³⁴



Source: David Syrett, “The Tunisia Campaign, 1942-43,” in *Case Studies in the Development of Close Air Support*, ed. Benjamin Franklin Cooling (Washington D.C.: Office of Air Force History, 1990), 171.

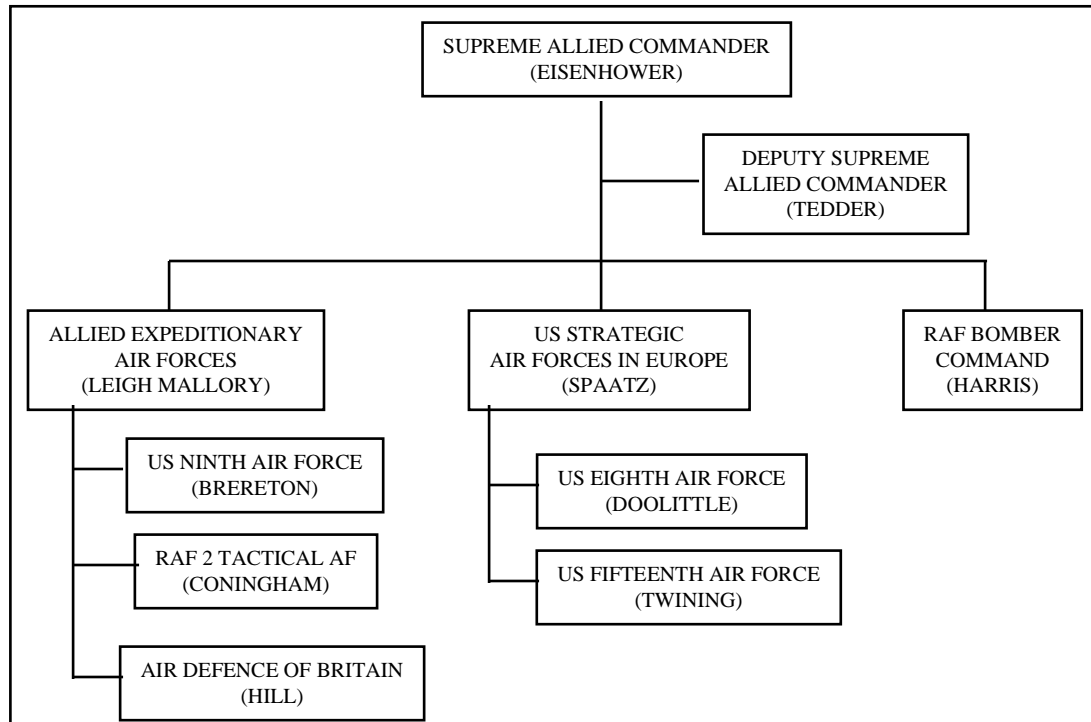
Figure 4. Allied Command Structure in the Mediterranean

Though acceptance of it was uneven initially, the new command arrangements soon became standard doctrine. Senior Army officers were slow to accept the idea of a single air commander, and attempted to dictate the employment tactics of AAF assets assigned to support ground units.³⁵ The acceptance of the tenet of centralized control received a boost when Field Marshal Bernard L. Montgomery and Air Marshal Sir Arthur Coningham briefed Allied officers on the lessons of the successful combined operations of the British Eighth Army and the RAF’s Western Desert Air Force.³⁶ Coningham’s basic principles of airpower employment³⁷ persuaded General Eisenhower and the US Army Chief of Staff, General George C. Marshall, to order a change in US Army procedures on the employment of airpower.³⁸ As a result, War Department Field Manual 100-20, *Command and Employment of Air Power*, was drafted in April 1943 and approved in July 1943.³⁹ It officially recognized the concept of centralized command and

control of air assets by stating “CONTROL OF AVAILABLE AIR POWER MUST BE CENTRALIZED AND COMMAND MUST BE EXERCISED THROUGH THE AIR FORCE COMMANDER.”⁴⁰

The command arrangements implemented by Eisenhower in the Mediterranean in early 1943 fulfilled the tenet of centralized control from a command aspect. Air commanders, specifically Air Marshall Coningham of the North African Tactical Air Force, possessed the authority to mass and shift theater air assets to achieve unity of effort in accomplishing air superiority or the support of ground forces.⁴¹ These command arrangements remained essentially unchanged throughout the capture of Tunisia and the invasions of Sicily and Italy in 1943. However, these arrangements did change when the Allies prepared for ground operations in Western Europe.

For operations in Western Europe, the Allies sacrificed the tenet of centralized control from an organizational aspect for reasons of national prestige and doctrine. In terms of doctrine, US Strategic Army Air Force (USTAAF) leaders wanted to pursue daylight strategic bombing to defeat the Germans with or without a land campaign.⁴² RAF Bomber Command leaders wanted to continue its night area bombing strategy.⁴³ For the most part, throughout the war neither command collaborated or coordinated with each other enough to ensure unity of effort until late in the war.⁴⁴ As shown in Figure 5, if unity of effort was achieved, it only occurred during the time from April to September 1944, when Eisenhower, as the theater commander, possessed operational control of both strategic air forces.⁴⁵ In the end, with the Allies enjoying an abundance of air and ground forces in relation to their enemies, the requirement for a single air commander to make decisions on the allocation of airpower garnered less attention as victory appeared imminent.⁴⁶ The fact remains however, that there existed “neither an overall air plan nor an overall air commander, as was the case in the Mediterranean.”⁴⁷



Source: W.A. Jacobs, "Operation OVERLORD," in *Case Studies in the Achievement of Air Superiority*, ed. Benjamin Franklin Cooling (Washington D.C.: Office of Air Force History, 1990), 286.

Figure 5. Allied Command Structure in June 1944

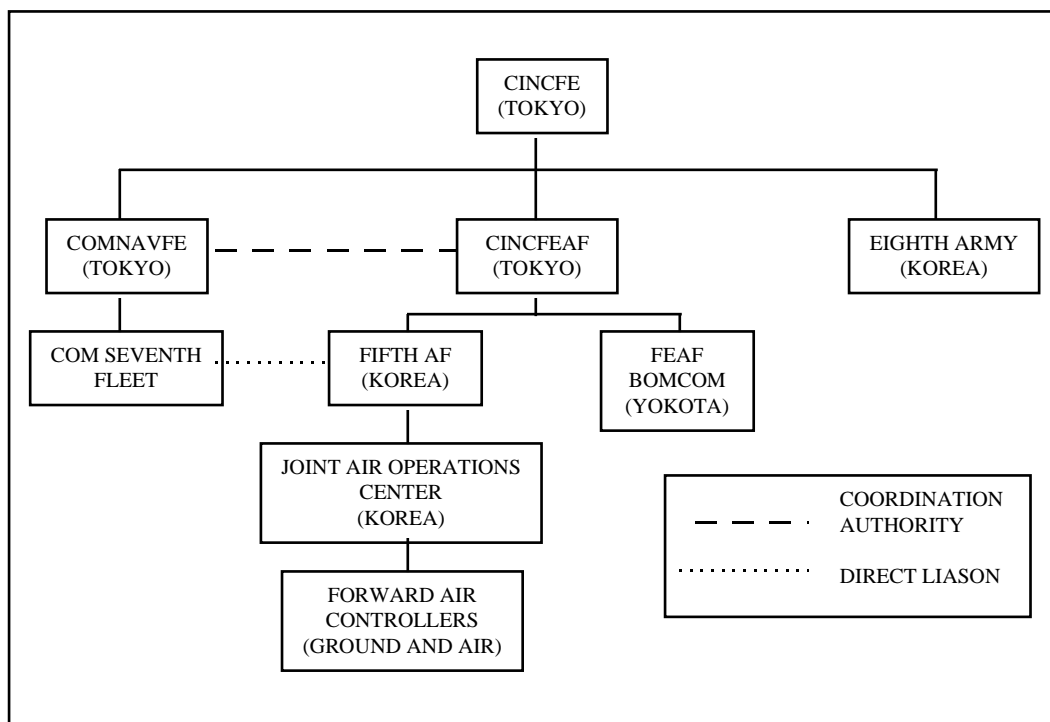
In summary, the tenet of centralized control from an organizational aspect was institutionalized in FM 100-20, as a product of British and US air experiences in the North African campaign in 1943. A span of control that allowed an air component commander to achieve unity of effort was established by the Allies in North Africa, but sacrificed in the campaign to recapture France and invade Germany. National egos, doctrinal differences, and an abundance of airpower were reasons the tenet of centralized control was not fulfilled in Western Europe.

The Korean War

During the Korean War (1950-1953) the organizational quest for centralized control was a three-year venture that eventually achieved unity of effort. The command arrangements for tasking and directing airpower assets centrally bore a resemblance to those of the North African and Western European campaigns of World War II. In

addition, UN commanders in Korea employed procedural means to provide better unity of effort.

As shown in Figure 6, the Far East Air Forces (FEAF) commander, Lt. General George E. Stratemeyer, was the air component commander for General Douglas A. MacArthur, the theater commander. As an Air Force officer, Stratemeyer already possessed command and control authority over the Fifth Air Force and the Far East Bomber Command. In addition, Stratemeyer had “coordination control” authority over US Navy and Marine Corps air assets as a procedural means for achieving unity of effort.⁴⁸ In Stratemeyer’s mind, “coordination control” meant de facto OPCON for FEAF, however the other services viewed it as only requiring coordination, not compellence to adapt the FEAF air plan.⁴⁹ In essence, the Navy and the Marine Corps believed in the centralized control of air assets, but only within their own service, not theater-wide.⁵⁰ Had MacArthur or his staff clearly defined the term “coordination control,” this doctrinal and parochial dispute between Air Force, Navy, and Marine Corps leaders may have been resolved early in the conflict.⁵¹



Source: William W. Momyer, *Air Power in Three Wars*, (Washington D.C.: Office of Air Force History, 1978), 61.

Figure 6. Control of Aircraft in Korea

Nonetheless by the middle of 1952, with the front lines static, FEAF and the Navy Forces Far East (NAVFE) had developed an arrangement that unofficially “recognized that FEAF was the controlling authority for all air operations.”⁵² Stratemeier and his successor, Lt. General Otto P. Weyland, established a FEAF targeting committee that allowed service components, including NAVFE, a chance to influence theater air operations. In addition, a joint operations center (JOC), located at Fifth AF headquarters, offered a facility where the act of coordinating and tasking could occur with the help of liaison officers from every service.

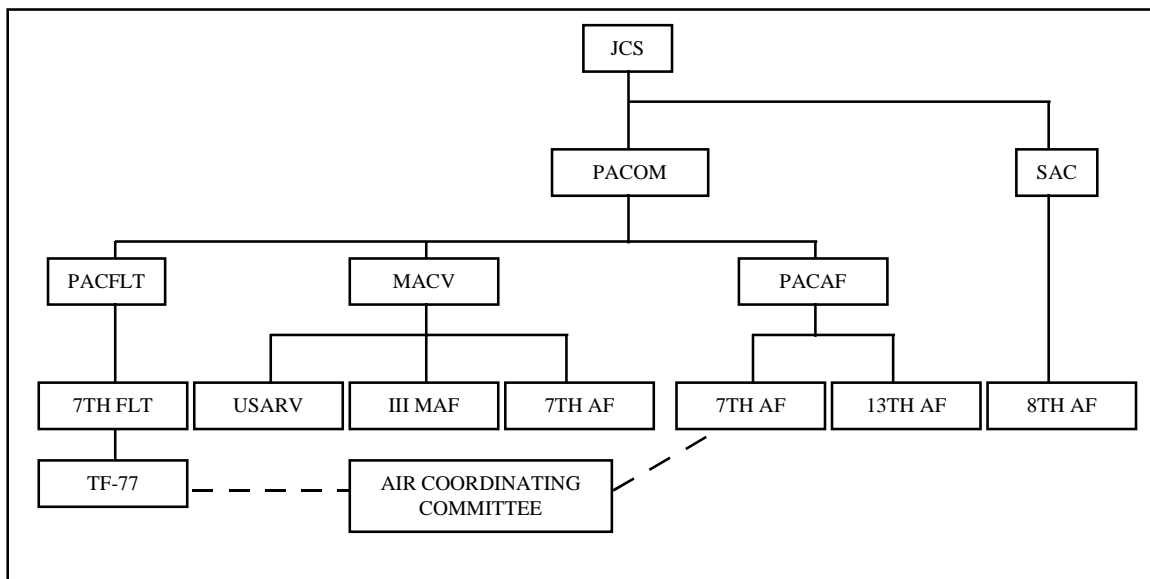
In summary, the tenet of centralized control from an organizational aspect was fulfilled in the Korean War, but only barely. Service parochialism and doctrinal differences threatened to impede unity of effort. By themselves, the command arrangements established by MacArthur did not promote unity of effort. However, combined with the procedural means of “coordination control” authority, the air component commander was able to achieve, over time, a span of control that allowed some semblance of unity of effort.

The Vietnam War

The Vietnam War represented a step backwards in the ability for airmen to achieve the tenet of centralized control of air assets in theater. From the aspect of command arrangements, no single air component commander existed. The ability to centrally task and direct airpower varied on where and when the air operation occurred in theater. For example, the control of air operations in Laos differed from that in South Vietnam.⁵³ This lack of centralized control is best illustrated by the command structure employed for air strikes against North Vietnam in Operation ROLLING THUNDER from 1965 to 1968, and Operations LINEBACKER I and II in 1972.

As shown in Figure 7, the command structure for centrally tasking air assets was divided at the strategic and operational level of war. At the strategic level, Pacific Command (PACOM) and Strategic Air Command (SAC) controlled assets. At the operational level US Pacific Fleet (PACFLT), US Pacific Air Forces (PACAF), and US Military Assistance Command Vietnam (MACV) each controlled assets for employment in theater. The PACOM commander did authorize the PACAF commander “coordination

authority," a procedural arrangement similar to "coordination control" employed in Korea. However, Vietnam was not a static land war like the Korean conflict, and "coordination authority" did not provide the PACAF commander with enough authority to quickly resolve the conflicts and details inherent in such joint air operations.⁵⁴ Inevitably this organizational arrangement of multiple air bosses created a web of sticky command and control problems.⁵⁵ As a result, the effectiveness and efficiency of airpower suffered and unity of effort proved elusive.⁵⁶



Source: James A. Winnefeld and Dana J. Johnson, *Joint Air Operations*, (Annapolis, Md.: Naval Institute Press, 1993), 176.

Figure 7. Air Command Structure in Vietnam

The main reason the tenet of centralized control from an organizational aspect failed to be fulfilled in the Vietnam had more to do with the Cold War than with doctrinal or parochial issues. The Vietnam War began as a small conflict. The PACOM commander, Admiral U.S. Grant Sharp, desired a flexible command structure that could respond to a larger conflict with communist China.⁵⁷ Therefore, Admiral Sharp decided to organize the sub-unified command MACV, whose air assets were supplied by both PACFLT and PACAF. Because MACV depended on these service components for its airpower, determining who actually controlled the air assets was difficult. In addition, the Air Force itself impeded the tenet of centralized control by electing to keep some Cold War assets, such as SAC B-52 units, away from MACV control.⁵⁸ The bottom line

is that the command arrangements established by CINCPACOM did not include an overall theater air commander, and therefore unity of air effort was not achieved in the Vietnam War.

Overall the air operations of World War II, Korea, and Vietnam show that rarely did a single air component commander possess a span of control to (1) task theater air assets regardless of service or nationality, and (2) plan, coordinate, and control these assets to achieve unity of effort. National egos, service parochialism, and doctrinal differences were some of the impediments to establishing this span of control. Without the required command and procedural arrangements, the air component commander could not exercise a level of control that efficiently achieved unity of air effort.

The 1986 Goldwater-Nichols Act and the JFACC

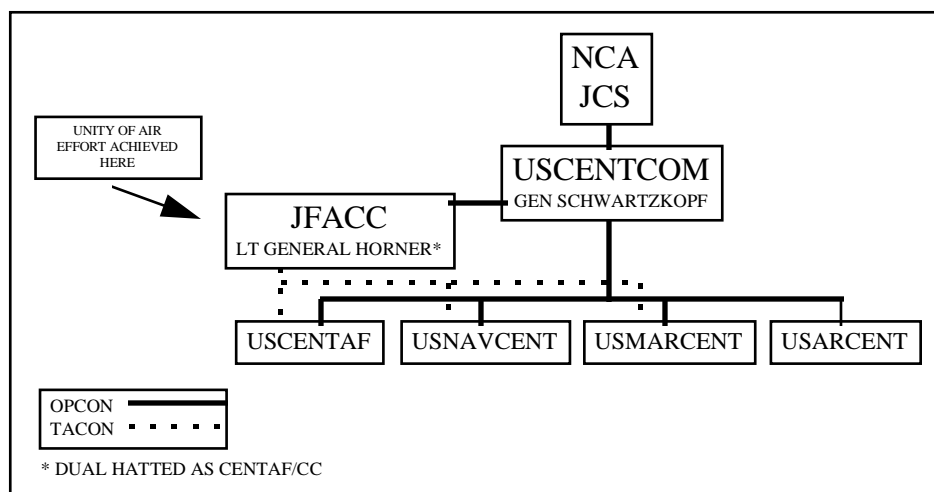
The command and control problems of the Vietnam War, as well as problems experienced later in operations in Iran, Lebanon, and Grenada, caused US Congressional leaders to rethink the military's methods for the command, control, and execution of joint operations.⁵⁹ The result was the Goldwater-Nichols Department of Defense Reorganization Act of 1986. The Goldwater-Nichols Act (GNA) had a "fundamental impact on the institutions of the unified commands, the Chairman of the Joint Chiefs of Staff (CJCS), and the services."⁶⁰ In a nutshell, the GNA strengthened the authority of the combatant commanders and the CJCS at the expense of the four services.⁶¹ The combatant commanders now could organize their commands as necessary to accomplish missions in theater.⁶² By itself, the GNA did not create the concept of a JFACC -- it simply planted the seed for service cooperation in the planning and execution of joint operations. However, since each service had a stake in airpower roles and missions, the cooperation cultivated by the GNA soon made the JFACC concept part of official joint doctrine.⁶³ In terms of the airpower tenet of centralized control, the GNA gave combatant commanders the authority to establish command arrangements that provide the JFACC the span of control necessary to achieve unity of effort in air operations.

According to Joint Publication 3.56-1, *Command and Control of Joint Air Operations*, a JFACC's duties include, but are not limited to, planning, coordination, allocation and tasking based on the JFC's apportionment decision.⁶⁴ The authority to

accomplish these duties is derived partially from the command structure established by the JFC for the air component commander.⁶⁵ In addition, the JFC employs procedural means to define a JFACC's authority, such as assigning operational control (OPCON) and tactical control (TACON) of certain forces to the JFACC.⁶⁶ OPCON is usually authorized over assigned and attached forces and provides "full authority to organize commands and forces and employ those forces as the commander in operational control considers necessary to accomplish assigned missions."⁶⁷ TACON is usually authorized over forces made available to the JFACC for tasking and provides "the detailed and usually local direction and control of movements or maneuvers necessary to accomplish assigned missions or tasks."⁶⁸ From a command aspect, the JFACC concept, spawned by the service cooperation created by the GNA of 1986, helped fulfill the airpower tenet of centralized control in the Persian Gulf War.

The Persian Gulf War

Compared to the convoluted chain of command in Vietnam, the Operation DESERT STORM command and control arrangements, as shown in Figure 8, were simple.⁶⁹ From the start of operations General H. Norman Schwarzkopf, the American theater commander, designated Lieutenant General Charles G. Horner as the JFACC.⁷⁰ Horner's duties included planning, coordinating, allocating and tasking air assets based on Schwarzkopf's apportionment decision. In addition, Horner recommended a daily air apportionment plan for Schwarzkopf's approval.⁷¹ To fulfill these duties, Horner was authorized OPCON over most Air Force assets in theater, such as fighters deployed from the Tactical Air Command (TAC) and the US Air Forces Europe (USAFE), and B-52 bombers from the Strategic Air Command.⁷² Horner was also authorized TACON over US Navy and Marine assets made available for joint air operations, plus the Joint Task Force (JTF) Proven Force flying out of Incirlik Air Base, Turkey.⁷³



Source: James A. Winnefeld and Dana J. Johnson, *Joint Air Operations*, (Annapolis, Md.: Naval Institute Press, 1993), 107.

Figure 8. US Command Structure for Operation DESERT STORM

OPCON and TACON provided Horner with a broader and more compelling authority than the “coordination control” and “coordination authority” employed in Korea and Vietnam.⁷⁴ Subsequently, General Horner, as the JFACC, possessed the required command and procedural authority to achieve unity of air effort, marking a “quantum leap” in the planning and execution of joint air operations.⁷⁵

It is true that Horner did not task *all* American air assets in theater, such as Naval fleet defense and a majority of Marine air assets.⁷⁶ This fact might be portrayed as a weakness, or a doctrinal setback, in the JFACC concept and its ability to fulfill completely and absolutely the tenet of centralized control. However, achieving such absolute centralized control is improbable for operations like DESERT STORM, involving an average of over 2700 sorties per day.⁷⁷ The ultimate goal is unity of air effort. In reality, the command arrangements were subject to interpretation by the component commanders, and this affected the JFACC’s level of control. But the abundance of air assets in theater provided enough firepower for the JFACC to execute the air plan while at the same time satisfying Naval and Marine requirements for control of some organic air assets.⁷⁸

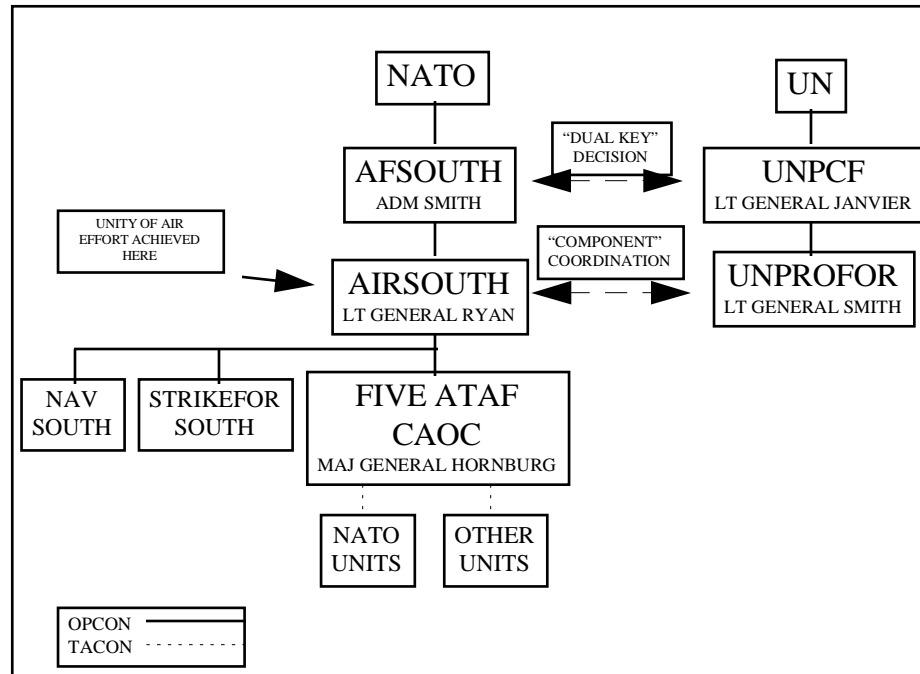
Lieutenant General Horner was spared the requirement to ask the theater commander to order the Marine Corps, or any other service, to provide more aircraft for tasking by the JFACC.⁷⁹ However, had the number of aircraft in theater been

significantly lower, or had these organic air operations hurt unity of effort, joint doctrine clearly authorizes the combatant commander to “redirect efforts” of service air assets as necessary to achieve the overall mission.⁸⁰ In summary, unlike previous wars involving air operations, in the Persian Gulf War the JFACC possessed enough authority (from the JFC) to establish a span of control that permitted unity of air effort.

Operation DELIBERATE FORCE

Operation DELIBERATE FORCE may represent a preview of the characteristics of future air conflict: diplomatically sensitive operations where airpower assets strike quickly to achieve limited political goals. The entire operation lasted only 16 days (30 August to 14 September 1995), and the total sorties were only a minor fraction of those flown in DESERT STORM.⁸¹ Nonetheless, as NATO’s first sustained air strike operation,⁸² DELIBERATE FORCE offers recent insight into the evolution of the organizational aspect of the tenet of centralized control.

DELIBERATE FORCE was executed as a branch of Operation DENY FLIGHT, a two and a half year NATO air effort in support of United Nations (UN) peace operations in Bosnia-Herzegovina.⁸³ The main objective of Operation DELIBERATE FORCE was to get Bosnian Serbs to cease attacks on Sarajevo and other UN mandated safe areas in Bosnia.⁸⁴ As shown in Figure 9, Lieutenant General Michael E. Ryan, the commander of Allied Air Forces Southern Command (AIRSOUTH) and the designated air component commander, exercised OPCON and TACON over NATO air forces.⁸⁵ Lieutenant General Ryan reported to Admiral Leighton W. Smith, the theater commander for Allied Forces Southern Command (AFSOUTH).⁸⁶ From the diagram, the tenet of centralize control from an organizational aspect was clearly fulfilled through command arrangements. Once given the go-ahead by Admiral Smith, Lieutenant General Ryan achieved unity of effort because his span of control included the authority to task and direct all assigned NATO air assets. However, the actual *decision* to allow Ryan to execute Operation DELIBERATE FORCE depended on delicate diplomatic arrangements between the NATO and UN command structures.



Source: General Michael E. Ryan, “NATO Air Operations in Bosnia-Herzegovina,” briefing slides, 17 September.

Figure 9. NATO and UN Command Structure for Operation DELIBERATE FORCE

Since NATO air operations were closely linked to UN diplomatic peace efforts in Bosnia, the decision to employ airpower of any kind required the approval from two separate chains of command. (Figure 9) This “dual key” arrangement proved unwieldy for the timely employment of airpower during most of Operation DENY FLIGHT—the UN and NATO rarely agreed on when and how airpower should be employed in various peace operations.⁸⁷ As an example, when UN peacekeepers requested close air support (CAS) to help protect the city of Srebrenica, NATO aircraft arrived within minutes, ready to engage.⁸⁸ However it took two days for the UN to approve air strikes, by which time the safe area was lost.⁸⁹

From an airpower view, the important point to draw from the UN/NATO “dual key” arrangement is that, although NATO air forces were centrally controlled, the *decision* to employ these forces was not. The “dual key” arrangement allowed the UN policy-makers to have veto authority over NATO air plans, even though they were not in the chain of command. As shown in the next chapter, these command arrangements affected how Ryan, the air component commander, exercised centralized control from a

battle management aspect in the planning and execution of Operation DELIBERATE FORCE.

Summary

A review of joint and coalition air operations since WW II, reveals that organizationally enhancing has not been a simple process. Prior to the Goldwater-Nichols Act of 1986, the North African campaign was the only example where a single air component commander possessed a span of control that allowed unity of effort. Army FM 100-20 was a product of experience in the North African campaign, and provided the doctrinal foundation for the tenet of centralized control. In subsequent conflicts, airpower assets and efforts remained divided between services, such as in the Korean War, or between strategic and operational levels of war, such as in the Vietnam War. Service parochialism, doctrinal disagreements, and a theater commander's inability or unwillingness to develop a centralized airpower command structure, all combined to prevent an air component commander from possessing the required span of control. Without this span of control, the tenet of centralized control from an organizational aspect remained unfulfilled, and the air component commander could not exercise a level of control appropriate for achieving unity of air effort. After the Goldwater-Nichols Act, however, the centralized control of airpower became easier as the services accepted the JFACC concept.

In Operations DESERT STORM and DELIBERATE FORCE, both theater commanders used their authority as combatant commanders to establish command and procedural means, such as OPCON and TACON, to provide the air component commander with a span of control that allowed unity of effort. This fulfilled the tenet of centralized control from an organizational aspect in both operations. The next step in this research is to focus on the battle management aspect of the tenet by determining the level of control exercised by each JFACC in DESERT STORM and DELIBERATE FORCE, and what factors affected that level of control.

Notes

³¹ Wesley Frank Craven and James Lea Cate, eds., *The Army Air Forces in World War II*, vol. 2, *Europe: Torch to Pointblank, August 1942 to December 1943* (1949; new imprint, Washington, D.C.: Office of Air Force History, 1983), 137.

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³² Ibid., 139-140; and Stephen J. McNamara, *Air Power's Gordian Knot: Centralized versus Organic Control*, (Maxwell AFB, Ala.: Air University Press, August 1994), 14.

³³ Craven and Cate, vol. 2, 106, 108, 283.

³⁴ Ibid., 109 and 114; and David Syrett, "Northwest Africa, 1942-1943," in *Case Studies in the Achievement of Air Superiority*, ed. Benjamin Franklin Cooling (Washington, D.C.: US Government Printing Office, 1994), 236-238.

³⁵ Syrett, 241-242.

³⁶ Craven and Cate, vol. 2, 164-165; and Syrett, 243.

³⁷ Coningham's basic principles were (1) Air superiority is the first requirement for any major operation, (2) The strength of air power lies in its flexibility and capacity for rapid concentration, (3) It follows that control must be concentrated, (4) Air forces must be concentrated in use and not dispersed in penny packets, (5) The Commanders (air and ground) and their two staffs must work together, (6) The Plan of Operation should be mutually adjusted and combined from the start. See Syrett, 245.

³⁸ Craven and Cate, vol. 3, *Europe: Argument to V-E Day, January 1944 to May 1945* (1949; new imprint, Washington, D.C.: Office of Air Force History, 1983), 807.

³⁹ Ibid.

⁴⁰ FM 100-20, *Command and Employment of Air Power*, 21 July 1943, 2. Uppercase typeset in original document. FM 100-20 is sometimes referred to as the "Magna Carta" of American airpower. See Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 2, March 1992, vol. 2, 113-114 and 122.

⁴¹ Craven and Cate, vol. 2, 160-161; and McNamara, 18 and 21.

⁴² Craven and Cate, vol. 1, *Plans and Early Operations, January 1939 to August 1942*, (1949; new imprint, Washington, D.C.: Office of Air Force History, 1983), 595.

⁴³ Ibid., 596.

⁴⁴ Craven and Cate, vol. 2, 374-376.

⁴⁵ Craven and Cate, vol. 3, 80-81, and 319-321; and McNamara, 31.

⁴⁶ Craven and Cate, vol. 3, 212, 777-778, and 807-808; and McNamara, 33.

⁴⁷ McNamara, 32-33. See also Craven and Cate, vol. 2, 375.

⁴⁸ General William W. Momyer, *Airpower in Three Wars*, (Washington, D.C.: Office of Air Force History, 1978), 57.

⁴⁹ Ibid., 58.

⁵⁰ For the Navy, control of its own aircraft was necessary for fleet defense against an unknown Chinese and Soviet naval threat. For the Marine Corps, a lesson learned from World War II was that amphibious forces required organic air assets to ensure responsive close air support. See McNamara, 66.

⁵¹ Momyer, 58-59.

⁵² Ibid.

⁵³ In Laos, some air operations came under the detailed control of the US Embassy. This made the embassy air attaché a de facto air component commander, who approved air strikes through the authority of the US Ambassador. See Momyer, 84-88.

⁵⁴ Ibid., 98.

⁵⁵ Ibid., 95.

⁵⁶ James A. Winnefeld and Dana J. Johnson, *Joint Air Operations: Pursuit of Unity in Command and Control, 1942-1991*, (Annapolis, Md.: Naval Institute Press, 1993), 82.

Notes

- ⁵⁷ Momyer, 78.
- ⁵⁸ McNamara, 110.
- ⁵⁹ Winnefeld and Johnson, 100.
- ⁶⁰ Ibid.
- ⁶¹ McNamara, 122.
- ⁶² Ibid.
- ⁶³ Winnefeld and Johnson, 100.
- ⁶⁴ JCS Pub 3-56.1, *Command and Control for Joint Air Operations*, 14 November 1994, II-2.
- ⁶⁵ Ibid., II-11.
- ⁶⁶ Ibid., II-2.
- ⁶⁷ JCS Pub 0-2, *Unified Action Armed Forces (UNAAF)*, 24 February 1995, III-8.
- ⁶⁸ Ibid., III-9.
- ⁶⁹ Winnefeld and Johnson, 107.
- ⁷⁰ Ibid.
- ⁷¹ Colonel David A. Deptula, USAF, former CENTAF campaign planning staff officer, interviewed by author, 28 February 1997.
- ⁷² McNamara, 126; Winnefeld and Johnson, 120.
- ⁷³ Winnefeld and Johnson, 109; and Brig General Lee A. Downer, "The Composite Wing in Combat," *Air Power Journal*, 4, no. 4, (Winter 1991): 5.
- ⁷⁴ Winnefeld and Johnson, 107.
- ⁷⁵ Ibid., 127.
- ⁷⁶ Ibid., 119-120
- ⁷⁷ Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare? Air Power in the Persian Gulf*, (Annapolis, Md.: Naval Institute Press, 1995), 156-157.
- ⁷⁸ Winnefeld and Johnson, 126-127, and 133; Keaney and Cohen, 131.
- ⁷⁹ Winnefeld and Johnson, 126-127; and Keaney and Cohen, 136.
- ⁸⁰ JCS Pub 0-2, IV-4.
- ⁸¹ DELIBERATE FORCE involved 3515 support and strike sorties total, while DESERT STORM averaged over 2700 sorties daily. Data from *Operation DELIBERATE FORCE*, 6 November 1995, 10 pages; on-line, Internet, 15 March 1997, available from gopher://marvin.nc3a.nato.int:70/00/yugo/df0611; and Keaney and Cohen, Appendix Two, 260-261.
- ⁸² General Michael E. Ryan, "NATO Air Operations in Bosnia-Herzegovina," lecture and briefing slides, School for Advanced Airpower Studies, Maxwell AFB, Ala., 17 September 1996.
- ⁸³ *Final Fact Sheet - Operation DENY FLIGHT*, 21 December 1995, 8 pages; on-line, Internet, 15 March 1997, available from <http://www.nato.int/ifor/general/fs-fin.htm>.
- ⁸⁴ "Statement by Secretary General of NATO," *NATO Press release*, 5 September 1995, n.p.; on-line, Internet, 15 March 1997, available from gopher://marvin.nc3a.nato.int:70/00/yugo/pr73.95.
- ⁸⁵ *Final Fact Sheet - Operation DENY FLIGHT*, 1.
- ⁸⁶ Ibid.
- ⁸⁷ Colonel Robert C. Owen, "Summary (U)," in *DELIBERATE FORCE: A Case Study in Air Campaigning (U)*, 2nd draft, (Maxwell AFB, Ala.: Air University, 28

Notes

February 1997), 16-17 and 19-20. (Secret) Information extracted is unclassified. Peace operations are usually divided into two missions: peacekeeping and peace enforcement. The UN favored the peacekeeping posture, while NATO favored the peace enforcement posture.

⁸⁸ Ibid., 20. (Secret) Information extracted is unclassified.

⁸⁹ Ibid. (Secret) Information extracted is unclassified.

Chapter 4

JFACC LEVELS OF CONTROL IN DESERT STORM AND DELIBERATE FORCE

**Chapter 4 is located in the Balkan Air Campaign Study room located at the AF
Historical Research Agency**

Chapter 5

Conclusions and Implications from DESERT STORM and DELIBERATE FORCE Case Studies

What history offers is not lessons...not prescriptions or unchanging solutions...but insights.

I.B. Holley, Jr.
1994

This chapter offers conclusions about the six factors examined in Chapter 4 and their role in constraining and facilitating a JFACC's level of control in joint air operations. These conclusions highlight areas where current Air Force doctrine requires expansion. The case studies show that the levels of control exercised by the JFACCs in DESERT STORM and DELIBERATE FORCE were different for each operation. The factors that constrained such different levels of control were the criticality of certain decisions and tasks, and the command arrangements established for the JFACC. The factors that played a large facilitating role in allowing the JFACC to exercise such a level of control were the scale of air operations and the C3I technology available in theater. The factors that had the least influence on the JFACC's level of control were JFACC doctrine and leadership style. The conclusions derived from each case study offer insights to JFACCs and their staff who must anticipate how to exercise centralized control in future joint air operations. Additionally, these conclusions offer insights to commanders of field units, and their subordinates, as to why a JFACC exercises a certain level of control.

Criticality of Decisions and Tasks

Lieutenant General Charles G. Horner and Lieutenant General Michael E. Ryan adopted levels of control they deemed appropriate in air operations based on how certain decisions and tasks might affect the entire theater campaign. For Horner the initial SCUD attacks and the invasion of Khafji, and for Ryan the need to pick correct DMPIs to minimize casualties and collateral damage, were of such importance that they attracted the JFACC's direct control. Future joint or coalition air operations are likely to feature similar critical events that require JFACCs to exercise at least some hands-on control of air operations. In some politically sensitive conflicts, JFACCs may lack authorization from their own commanders or civilian leaders to delegate certain decisions and tasks, such as approving the use of lethal force in situations not involving self-defense.

Current AF doctrine fails to highlight the linkage between the criticality of certain decisions and tasks and a JFACC's level of control. Air Force Manual 1-1 (AFM 1-1) provides future JFACC's and air operation planners with only the broad guidance that the "optimum use of aerospace forces depends upon a host of dynamic circumstances peculiar to the conflict at hand."⁹⁰ It also acknowledges that tactical air events can "produce a direct and immediate strategic effect" upon an adversary.⁹¹ However in discussing the operational art of command and control, there is no mention of how the "dynamic circumstances" of a conflict, combined with the possibility that tactical events produce strategic effects, may constrain a JFACC's level of control. This linkage is also absent from the replacement for AFM 1-1, Air Force Doctrine Document 1 (AFDD 1). Air Force doctrine should emphasize that certain decisions and tasks common to joint air operations may demand direct JFACC control depending on the political, diplomatic, economic, and military circumstances.

Command Arrangements

The command arrangements established by the JFC for the JFACC represent the JFACC's "span of control" and ability to achieve unity of effort. As shown in Chapter 3, these arrangements are intertwined with national and service preferences and interservice squabbles that go back to the introduction of airpower into military conflicts. The insight

gained from DESERT STORM and DELIBERATE FORCE is that if the JFACC's span of control is fragile and open to interpretation among the other service commanders, the JFACC necessarily must devote more attention to the JFC/Component commander coordination phase to consolidate authority. If, however, the JFC establishes a clear span of control for the JFACC, then the JFACC can devote more time to the job of planning and executing air operations.

Air Force doctrine pays particular attention to command arrangements, touting the establishment of a JFACC as the "most effective and efficient scheme" for achieving unity of effort in joint air operations.⁹² The doctrine fails to mention, however, how variations in a JFACC's authority, especially those concerning control over assets from other nations and services, affect the JFACC's level of control in the battle management process. Air Force doctrine must highlight that clear lines of authority allow the JFACC to devote more time and attention to the planning and execution of the joint air operation, and less time to coordinating and compromising with other nations, services, and component commanders.

Scale of Operations

The scale of operations may facilitate a JFACC's level of control, but it does not necessarily mandate a particular level of control. In DESERT STORM, the abundance of air assets facilitated Lieutenant General Horner's diplomatic handling of interservice disputes concerning his tactical control of Naval and Marine air assets. In DELIBERATE FORCE, the small scale of operations in terms of targets struck allowed the JFACC to exercise direct control over the selection of DMPIs and aircrew tactics. However, in neither conflict did the scale of air operations become such a prominent factor that it forced the JFACC to exercise a different level of control than desired.

AFM 1-1 and the draft of AFDD 1 fail to mention how the scale of certain air operations affect the air component commander's level of control. AFM 1-1 only provides a blanket warning that a JFACC will face information overload if he attempts to directly control detailed tactical events.⁹³ Lieutenant General Ryan showed that this warning, although prudent, is not always valid. Air Force doctrine should highlight that

the scale of air operations may facilitate a JFACC level of control quite different from that exercised in previous conflicts.

C3I Technology Available

The C3I technology available in theater was essentially of the same quality for both operations. Communication nets relied mainly on UHF radio relay to control air operations. The CAOC in DELIBERATE FORCE had a slight advantage over the TACC in DESERT STORM in its capability to exercise real-time control through the “CAOC to Cockpit” radio. Interestingly, Lieutenant General Ryan did not use this technology to exercise direct control over air operations.⁹⁴ The insight gained from both DESERT STORM and DELIBERATE FORCE is that technology did not dictate, rather it facilitated, the level of control exercised by the JFACC. In other words, just because the JFACC possessed the capability to speak directly to aircrew members and thus directly control air operations, he did not do so. Conversely, there was no evidence that the available C3I limited the JFACC’s desired level of control.

Air Force doctrine currently portrays C3I technology as a double-edged sword, offering promise for effective and efficient control of air operations, but vulnerability to disruption.⁹⁵ This warning to avoid “overconfidence and dependency” on C3I technology is valid and prudent. What is missing from Air Force doctrine is a statement that C3I technology is useful for allowing a JFACC to exercise a given level of control, but it should not be the factor that determines that level of control. Additionally, doctrine should highlight that drawbacks of a JFACC exercising a level of control simply because the C3I technology allows him to do so. Even if effective, unnecessary JFACC control of certain phases in the theater airpower employment process may stifle subordinate initiative, erode competence, and hurt morale.

JFACC Leadership Style

Attempting to determine exactly how much a JFACC’s leadership style instigated or facilitated his level of control in air operations is difficult. Personality certainly plays a role in all facets of a JFACC’s job. However JFACCs do not obtain their rank and authority by being solely “micro-managers” or “laissez-faire” type leaders. The oral

interview and transcripts of Lieutenant Generals Horner and Ryan, as well as the interviews of other TACC and CAOC personnel, indicate that the level of control exercised by each JFACC was determined less by leadership style and more by other factors, such as the command arrangements and the criticality of decisions. Interview transcripts show that Lieutenant General Ryan exercised greater direct control over operations in DELIBERATE FORCE than Lieutenant General Horner in DESERT STORM. There was no evidence that showed that another JFACC would have changed Ryan's level of control appreciably.⁹⁶

AFM 1-1 offers two essays that contain insight into military leadership and how it interacts with war and conflict.⁹⁷ Unfortunately, AFDD 1 has dropped any mention of how a commander's leadership style affects air operations. Any new version of Air Force doctrine should mention that a competent JFACC should avoid allowing his personal leadership style to dictate a level of control that is ineffective for the type of air operations being conducted.

Status of JFACC Doctrine

The JFACC doctrine and training available prior to DESERT STORM and DELIBERATE FORCE had the least effect on the JFACC's level of control. In DESERT STORM, the JFACC play book for Lieutenant General Horner was virtually unwritten.⁹⁸ In DELIBERATE FORCE, the Balkan crises varied so much from the Persian Gulf War that Lieutenant General Ryan also worked in essentially uncharted airspace. The insight gained is not that JFACC doctrine is useless, but that JFACC doctrine as written may not fit all types of conflicts and wars. Therefore future JFACCs should be prepared to exercise a unique level of control if required by the circumstances. The JFACC's staff, and personnel throughout the TACS (including aircrew members), should be prepared to perform their duties in a manner that complements what could be a very different JFACC level of control.

AFM 1-1 and the draft edition of AFDD 1 clearly highlight that doctrine is only a foundation for the planning and execution of joint air operations.⁹⁹ In this respect, Lieutenant General Horner and Ryan exercised their "professional judgment" on determining the appropriate control for the operations at hand. What is missing in Air

force doctrine is a more robust description of the second aspect of the tenet of centralized control, the JFACC's level of control in the battle management process. Even the Air Force's *JFACC Primer*, published in February 1994, concentrates solely on the organizational aspect of the JFACC's control. It does not mention any factors that may dictate that the JFACC exercise "hands on" control of certain phases of joint air operations. Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, is the only doctrine manual that mentions that the JFACC's level of control "may need to be more rigorous and the rules of engagement more restrictive" depending on the nature of the air operations.¹⁰⁰ Future Air Force doctrine should add and expand this idea.

Conclusion

This chapter focused on insights gained from the DESERT STORM and DELIBERATE FORCE air operations and their implications for Air Force doctrine. AFM 1-1, and its replacement, AFDD 1, focus mostly on the organizational aspect, and not the battle management aspect, of the tenet of centralized control. Although doctrine is not a "school solution" for all situations, the basic theme from both publications in relation to the tenet of centralized control is that establishing a JFACC is the best way to organize for air operations, and that a JFACC should delegate decisions as much as possible in the battle management process. In essence, there is no mention of flexibility in the battle management process—there is no acknowledgment that a JFACC may adapt different levels of control for different situations.

Since centralized control is the "master tenet" of American airpower,¹⁰¹ the insights offered for each of the six factors examined in this paper should be added to Air Force doctrine manuals and a revised *JFACC Primer*. Perhaps a means of emphasizing the battle management aspect of the tenet of centralized control is to restate the entire tenet as "centralized command and adaptive control." Centralized command focuses on the command and procedural arrangements that permit a JFACC to achieve unity of air effort, while adaptive control highlights that a JFACC's level of control is flexible and subject to change with changes in the nature of the conflict or war. This restatement of the tenet provides all personnel involved in the theater airpower employment process,

from the JFACC to the aircrew member, a better understanding of how the historical tenet of centralized control contributes to the unofficial, yet often quoted Air Force quip: “Flexibility is the key to airpower.”

Notes

⁹⁰ Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States*, vol. 1, March 1992, 9.

⁹¹ AFM 1-1, vol. 2, 116.

⁹² Ibid., 114; and Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, 2nd draft, 14 May 1996.

⁹³ AFM 1-1, vol. 2, 115.

⁹⁴ Major Tony Lazarski, AIRSOUTH planner, interviewed by author, 10 January 1997, Naples, Italy; and Lt. Colonel David Goldfein, COMAIRSOUTH Aid-de-camp, telephone interview with author, 10 January 1997.

⁹⁵ AFM 1-1, vol. 2, 115 and 131; and AFDD 1, 19.

⁹⁶ The author spoke to two previous JFACCs and two general officers who attended the 10 day Joint Forces Air Component Commander Course at Maxwell AFB, Ala.

⁹⁷ See “Human Factors in War,” (Essay C) and “The Expertise of the Profession of Arms,” (Essay D), AFM 1-1, vol. 2, 17-25 and 25-31.

⁹⁸ Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare? Air Power in the Persian Gulf*, (Annapolis, Md.: Naval Institute Press, 1995), 137.

⁹⁹ AFM 1-1, vol. 1, vii; and AFDD 1, vi and 36-37.

¹⁰⁰ JCS Pub 3-56.1, *Command and Control for Joint Air Operations*, 14 November 1994, vii.

¹⁰¹ AFM 1-1, vol. 2, 113.

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